

CLAIMS

What is claimed is:

1. A method for casting a plurality of blades having an airfoil and a root for securing the blade to a disk, the method comprising:

forming a plurality of mold sections each having internal surfaces for forming an associated at least one blade of the plurality of blades;

assembling the plurality of mold sections; and

introducing a molten alloy to the assembled mold sections.

2. The method of claim 1 wherein:

the molten alloy is simultaneously introduced to the assembled mold sections.

3. The method of claim 1 wherein:

each of the mold sections has the internal surfaces for forming only a single such associated blade; and

the internal surfaces of each of the mold sections include first surfaces for forming an exterior of the associated blade and second surfaces for forming an interior of the associated blade.

4. The method of claim 1 wherein the assembling comprises assembling the plurality of mold sections with a distribution manifold.

5. The method of claim 4 wherein:

the molten alloy is introduced so as to settle to an upper level below a lower extreme of flow path portions through the manifold.

6. The method of claim 4 wherein:

the distribution manifold comprises a manifold body having:

a pour chamber for receiving molten material; and

a plurality of feeder conduits, each extending from the pour chamber toward an associated one or more of the mold sections; and

the assembling comprises positioning each of a plurality of filters in an associated one of the feeder conduits.

7. The method of claim 1 wherein the forming of each of the mold sections comprises:
assembling a sacrificial blade pattern and a sacrificial gate form atop a plate;
applying a shell to the assembled blade pattern and gate form; and
heating the shell to melt at least a portion of each of the blade pattern and gate form.
8. A method for casting parts comprising:
forming a plurality of mold sections;
assembling a cluster of the mold sections that have passed such inspection; and
assembling a distribution manifold to the cluster, the distribution manifold having:
a pour chamber for receiving molten material; and
a plurality of feeder conduits, each extending from the pour chamber toward
an associated one or more of the assembled mold sections.
9. The method of claim 8 further comprising:
inspecting the mold sections and wherein the cluster is assembled from mold sections
that have passed such inspection.
10. The method of claim 9 further comprising:
discarding one or more of the mold sections that have failed such inspection.
11. The method of claim 8 further comprising:
pouring the molten material into the pour chamber; and
in a furnace, disassembling the manifold from the cluster and disassembling the
cluster.
12. The method of claim 8 further comprising:
pouring the molten material into the pour chamber; and
permitting the molten material to solidify to consist essentially of a nickel- or
cobalt-based superalloy.
13. A mold assembly comprising:
a plurality of mold sections; and
a distribution manifold assembled to the plurality of mold sections and having:
a pour chamber for receiving molten material;

a plurality of feeder conduits, each extending from the pour chamber toward an associated one or more of the plurality of mold sections; and

a plurality of filters, each positioned in an associated one of the feeder conduits.

14. The mold assembly of claim 13 wherein:

there are 3-4 such mold sections; and

there is a single such feeder conduit associated with each of the mold sections.

15. The mold assembly of claim 13 wherein:

each mold section comprises a molding cavity and a gate, the gate extending from a lower end at the molding cavity to an upper end coupled to the distribution manifold.